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prominent on the lower surface of the leaf. Conidia filiform, mostly curved, a little thicker at one end, subobtuse, hyaline, multinucleate, becoming multiseptate, 35–50 by 2μ, erumpent below and whitening the surface of the spots. This differs from the specimen of *Septoria stachydis* Rob. in Desm., Plantes Crypt., 1712, in its smaller, darker, more definitely limited spots, and its thicker, multinucleate conidia.

STILBOSPORA VARNEYANA *n. sp.*—On dead twigs. Grounds of the Department of Agriculture, Washington, D. C., September, 1891. (Collected by F. W. Anderson, communicated by May Varney.) Acervuli subcutaneous, subtuberculiform-prominent, conidia oblong-elliptical, 3-septate, not constricted, hyaline at first, soon becoming dark brown and opaque, except the terminal cells, which are small and remain subhyaline, 15–25 by $12–14\mu$. Differs from *S. angustata* Pers. in its smaller conidia, with the end cells hyaline.

TUBERCULINA SOLANICOLA *n. sp.*—On fruit of eggplant. Fla. (C. E. Smith.) Acervuli erumpent, tuberculiform, $\frac{1}{3}^{\mathrm{mm}}$ in diameter, at first pale, becoming darker when dry, gregarious on pallid spots, 1^{cm} in diameter, or by confluence more. Basidia 12–15 by $2–2\frac{1}{2}\mu$, guttulate, hyaline, attenuated and slightly curved above. Conidia elliptical, 2-nucleate, hyaline, 5–7 by $2\frac{1}{2}–3\mu$. Differs from the other species of this genus in not being (so far as yet known) associated with any Uredinous fungus.

FUNGI DESCRIBED IN RECENT REPORTS OF THE CONNECTICUT EXPERIMENT STATION.

By ROLAND THAXTER.

In the reports of the Connecticut Station for 1889–'91 the writer had occasion to publish descriptions of certain new species of fungi which it seems desirable to duplicate in a form more permanent and readily accessible than that afforded by the somewhat evanescent Experiment Station literature, and through the courtesy of the editor of the JOURNAL the descriptions in question are appended, with a few additional notes.

UROCYSTIS HYPOXYIS Thaxter.

Ann. Rep't. Conn. Agr. Exp. Sta. in descr. of Pl. II, following p. 153: Pl. II, Figs. 12–14, New Haven, April, 1890. Ellis N. A. F., Cent. XXVII, No. 2688. Sacc. Syll., Vol. IX, p. 290. Pazschke, Hedwigia, 1892, p. 94.

Spore masses black, in flowers (filling ovary), pedicels, and peduncles (only near summit). Spore balls very irregular in size and shape, roundish or long oblong, the largest 50–60 by 50μ, the smallest about 25 by 25μ. Resting spores brown, spherical or somewhat polygonal from pressure, one to ten, rarely 14 to 15 in number, $13–15\mu$. Pseudospores numerous, and when the resting spore is single about 8 to 10 in number, somewhat flattened, variable, $8–15\mu$ in diameter. On *Hypoxys erecta* L. June–Aug., Westville, Conn.

This species occurred abundantly in a single locality near New Haven, but has not been found elsewhere in this country. Specimens from Brazil, however, which seem to be identical with the Connecticut form, have since been received from Dr. Otto Pazschke. Since the writer's original spelling of the specific name (*hypoxys*) has been set aside in favor of *hypoxydis* by Saccardo and others who have had occasion to mention it, some pains have been taken to ascertain from classical authorities, both at New Haven and at Cambridge, exactly what the spelling of such a genitive should be. Although the authorities in question were unanimous in asserting that *hypoxydis* (or *hypoxidis*) was absolutely incorrect the unanimity in regard to what spelling is really correct was not so striking. The general opinion seems to prevail, however, that such a genitive, had it been used, would have had the termination *yis*, and *hypoxyis* may therefore be safely employed to designate the present form.

PHYTOPHTHORA PHASEOLI Thaxter.

Bot. Gazette, Vol. XIV, 1889, p. 273; Ann. Rep't. Conn. Agr. Exp. Sta., 1889, p. 167, Pl. III, figs. 29–37; Seymour & Earle Econ. Fungi. No. 9. Ellis N. A. F., Cent. XXVIII, No. 2707.

Mycelial hyphæ branched, rarely penetrating the cells of the host by irregular haustoria. Conidiophores slightly swollen at their point of exit through the stomata, arising singly or two to several in a cluster; simple or once dichotomously branched, and once to several times successively inflated below their apices. Conidia oval or elliptical, with truncate base and papillate apex; 35–50 by 20–24μ. Germination by zoöspores, usually fifteen in number, or rarely by a simple hypha of germination. Oöspores unknown. On pods, stems, and leaves of the Lima bean (*Phaseolus lunatus*). Sept. and Oct., New Haven, Conn.,

Although so common about New Haven this species has not, so far as the writer is aware, been observed in any other locality. Whether it is an introduced exotic or is a native form which may yet be found on some native leguminous plant, is uncertain; yet its introduction at New Haven may possibly be traced to the fact that a gentleman resident there, in whose garden the fungus was abundant, received a package of Lima beans directly from South America some years since, which, when planted, may have originated the epidemic which all the gardeners whom the writer questioned concerning it, agreed to be of comparatively recent origin. The species is mentioned by Fischer in his Phycomycetes (*Rabh. Kryptogamenfl.* Vol. I. part 4, p. 415) as an "ungenau bekannte Art;" why "ungenau" is hardly evident from the references above quoted.

GYMNOSPORANGIUM NIDUS-AVIS Thaxter.

Bull. No. 107, Conn. Agr. Exp. Sta., p. 6; also Ann. Rep't of same for 1891, p. 164. Seymour & Earle, Economic Fungi, Nos. 239 & 240.

Sporiferous masses when young, cushion-like, irregularly globose or oval, small and distinct or elongate and confluent according to the habitat; rich red brown; when mature indefinitely expanded by moisture, orange-colored. Teleutospores two-celled, irregular in shape, broadly ovate to subelliptical or fusiform, bluntly rounded or slightly tapering toward the apex, symmetrical or often slightly bent. Average dimensions 55 by 25μ. Promycelia several, not uncommonly proceeding from either extremity. Pedicels when young often more or less inflated below the spore. Mycelium perennial in leaves, branches, or trunks of *Juniperus virginiana*, very commonly inducing a " bird's-nest " distortion.

Rœstelia stage.—Spermogonia yellowish orange, preceding the æcidia by about ten days. Æcidia hypophyllous or more commonly on petioles and young shoots, and especially on young fruit, densely clustered, brown, at first subulate, then fimbriate; the peridia splitting to the base, with its divisions slightly divergent. Peridial cells rather slender, the ridges somewhat prominent, sublabyrinthiform, horizontal or becoming inwardly oblique towards the extremities. Average measurements (towards the apex of the peridia) 7 by 18μ. Æcidiospores smooth, spherical or irregularly oval to oblong; average diameter 25μ.

Mycelium annual in the leaves of *Cydonia* (quince) and in leaves, stems, and fruit of *Amelanchier canadensis* (service berry) in June.

OOSPORA SCABIES Thaxter.

Ann. Rep't. Conn. Agr. Exp. Sta., 1891, p. 159.

Vegetative hyphæ hyaline or brownish from the general discoloration of the substratum, .4–.6μ, rarely as much as 1μ in diameter, curving irregularly, septate or pseudoseptate, branching. Aërial hyphæ at first white, then grayish, evanescent, breaking up into bacteria-like segments after producing terminal spirillum-like " spores" by the coiling of their free extremities. Forming a firm, lichenoid pellicle on nutrient jelly, and usually when growing in contact with the air producing a deep black-brown discoloration of the substratum. Producing the disease known as "Scab" on potato tubers and a similar affection of beet roots.

The measurements of the hyphæ of this form given in the original description (.6–1μ) are somewhat larger than they should be, hyphæ 1μ in diameter being very rarely seen and the average diameter being usually less than .6μ. The spiral forms are most readily seen in the grayish film developed naturally on the scab spots, though they are obtained without difficulty from the aërial hyphæ on hard agar cultures. The writer has seen no published account of further European observations upon the disease, and such accounts are to be awaited with interest. Sauvageau,* however, has apparently obtained the scab fungus accidentally from water, and described it as *Oospora metchnikowi* n. s. Although this writer does not mention the spiral "spores" the form corresponds so closely to the present species, both in structure and in its effects upon the substratum, that the identity of the two seems more than probable.

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* Ann. d. l'Inst. Pasteur, t. VI, p. 242.